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ARIZONA'S FOREST AREA AND TIMBER VOLUME

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ABSTRACT

Arizona's 21 million acres of forest land includes only 4 million acres classed as commercial. Of this commercial forest area, 96 percent is publicly administered and 66 percent is in National Forests. The ponderosa pine timber type occupies 92 percent of the commercial forest area. This species accounts for 85 percent of both the growing stock and sawtimber volume in the State.

Arizona, although generally considered a desert State, ranks thirteenth among the 50 States and fourth among the Rocky Mountain States in forest area. Forest lands occupy 20.6 million acres, or 28 percent of the total land area of the State.

Only 4 million acres, or 19 percent of the forest, are classed as commercial, that is, suitable for production of industrial timber products. The other 81 percent is in two categories. Some 353,000 acres are productive but are classed as noncommercial because they are reserved from timber cutting in National Forest wild, wilderness, and primitive areas, and in National Parks and National Monuments. The remainder of the noncommercial area (nearly 16.3 million acres) is incapable of growing timber crops suitable for forest industry because of adverse site conditions. This area is largely a transition zone between desert and commercial forest. Its cover is principally (75 percent) pinyon-juniper; the remainder is mostly chaparral.

Ninety-six percent of the commercial forest land is publicly owned or managed. The 4 percent that is in private ownership is the smallest proportion of privately owned commercial forest land in any of the Rocky Mountain States.

Most of the commercial forest area in Arizona (92 percent or 3.7 million acres) is in the ponderosa pine type.

The total volume of merchantable trees 5.0 inches in diameter and larger is 6 billion cubic feet, nearly all of it in sawtimber stands. The total sawtimber volume is 27 billion board feet. Eighty-five percent of it (23 billion board feet) is ponderosa pine. Arizona has more ponderosa pine volume than any other Rocky Mountain State.

* * * * *

Statistics shown in the following tables were compiled from several sources. The principal sources were inventories by the National Forests, the Bureau of Indian Affairs, and the Forest Survey staff of the Intermountain Forest and Range Experiment Station. A combination of photo interpretation and field examination of sample areas was used to obtain data for most areas. Fieldwork was completed in 1962, compilations in 1964.

More comprehensive timber statistics will be included in an analytical report for the State that will be published later this year.

Table 1.--Arizona area by land classes

Land class	: : Thousand acres
Commercial forest land ¹	3,977
Unproductive forest land ²	16,268
Productive-reserved forest land ³	353
Total forest land	20,598
Nonforest land	52,090
All land	⁴ 72,688

¹Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization.

²Forest land incapable of growing crops of industrial wood because of adverse site conditions.

³Productive forest land withdrawn from timber utilization through statute or administrative regulation.

⁴From U.S. Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2.--Area of commercial forest land in Arizona by ownership classes

Ownership class	: : Thousand acres
National Forest	2,630
Other Federal:	
Bureau of Land Management	2
Indian ¹	1,144
Total other Federal	1,146
State	32
County and municipal	2
Farmer-owned	82
Other private	85
All ownerships	3,977

¹ Indian tribal lands and trust allotments; that is, lands held in fee by the Federal Government but administered and managed for Indian tribal groups or allotted in trust to individual Indians.

Table 3.--Area of commercial forest land in Arizona by stand-size and ownership classes

Stand-size class	: All ownerships :	Public :	Private :
- - - - - Thousand acres - - - - -			
Sawtimber stands ¹	3,743	3,607	136
Poletimber stands ²	128	114	14
Sapling and seedling stands ³	41	24	17
Nonstocked stands ⁴	65	65	--
All classes	3,977	3,810	167

¹ Stands at least 10-percent stocked with growing stock trees with a minimum net volume per acre of 1,500 board feet in sawtimber trees.

² Stands failing to meet the sawtimber stand specifications, but at least 10-percent stocked with poletimber and larger (5.0 inches d.b.h. and larger) trees and with at least half the minimum stocking in poletimber trees.

³ A stand not qualifying as either a sawtimber or poletimber stand, but having at least 10-percent stocking of trees of commercial species and with at least half the stocking in sapling and seedling trees (less than 5.0 inches d.b.h.).

⁴ A stand not qualifying as a sawtimber, poletimber, or a sapling-seedling stand; i.e., normally a stand less than 10-percent stocked.

Table 4.--Area of commercial forest land in Arizona by forest types and ownership classes

Forest type	: All ownerships :	Public :	Private :
- - - - - Thousand acres - - - - -			
Douglas-fir	130	130	--
Ponderosa pine	3,658	3,515	143
Fir-spruce	110	110	--
Aspen	79	55	24
All types	3,977	3,810	167

Table 5.--Area of noncommercial forest land in Arizona by forest types

Forest type	: All areas :	Productive reserved areas :	Unproductive areas :
- - - - - Thousand acres - - - - -			
Douglas-fir	7	7	--
Ponderosa pine	624	345	279
Fir-spruce	1	1	--
Chaparral	3,728	--	3,728
Pinyon-juniper	12,249	--	12,249
Arizona cypress	12	--	12
All types	16,621	353	16,268

Table 6.--Volume of growing stock and sawtimber on commercial forest land in
Arizona by species

Species	Growing stock ¹	Sawtimber
	Thousand cubic feet	Thousand board feet ²
Douglas-fir	282,510	1,476,300
Ponderosa pine	5,204,562	22,883,386
Limber pine	39,215	186,280
True firs ³	210,108	932,040
Engelmann spruce	230,810	1,214,431
Aspen	123,986	258,521
All species	6,091,191	26,950,958

¹ Net volume in cubic feet of live merchantable sawtimber trees and poletimber trees from a 1-foot stump to a minimum 4.0-inch top inside bark.

² International $\frac{1}{4}$ -inch log rule.

³ Corkbark, subalpine, and white fir.

Table 7.--Volume of growing stock and sawtimber on commercial forest land
in Arizona by ownership classes

Ownership class	Growing stock	Sawtimber
	Thousand cubic feet	Thousand board feet ¹
National Forest	4,389,191	19,153,180
Other public	1,556,126	7,296,681
Private	145,874	501,097
All classes	6,091,191	26,950,958

¹ International $\frac{1}{4}$ -inch log rule.

Table 8.--Volume of growing stock and sawtimber on commercial
forest land in Arizona by stand-size classes

Stand-size class	Growing stock	Sawtimber
	Thousand cubic feet	Thousand board feet ¹
Sawtimber stands	5,948,767	26,694,125
Poletimber stands	136,478	237,489
Sapling and seedling stands	5,268	15,928
Nonstocked stands	678	3,416
All classes	6,091,191	26,950,958

¹ International $\frac{1}{4}$ -inch log rule.